CLAIMS

What is claimed is:

1. A method of fabrication for a magnetoresistive device, said method comprising:

forming an oxide layer;

forming a plurality of magnetoresistive device layers above said oxide layer;

forming an etch stop above said magnetoresistive device layers;

surrounding said magnetoresistive device layers with an oxygen barrier; and

etching into said oxide layer while said magnetoresistive device layers are surrounded by said oxygen barrier.

2. The method of claim 1, wherein said oxide layer comprises silicon oxide.

3. The method of claim 2, wherein said oxygen barrier comprises a photoresist layer.

4. The method of claim 3, wherein said oxygen barrier further comprises a silicon nitride layer.

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5. The method of claim 1, wherein forming a plurality of magnetoresistive device layers comprises:

forming at least one ferromagnetic layer.

6. The method of claim 1, wherein forming a plurality of magnetoresistive device layers comprises:

forming a plurality of ferromagnetic layers; and

forming at least one nonmagnetic layer.

7. The method of claim 6, wherein said magnetoresistive device layers comprise a spin valve.

8. The method of claim 6, wherein said magnetoresistive device layers comprise a pseudo spin valve.

9. The method of claim 1, wherein said etch stop comprises titanium nitride.

10. The method of claim 1, wherein etching into said oxide layer comprises:

etching into said oxide layer to expose at least one electrical contact.

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11. The method of claim 10, further comprising:

removing at least part of said oxygen barrier; and

forming at least one electrically conductive path between said magnetoresistive device layers and said at least one electrical contact.

12. A method of fabrication for a magnetic device, said method comprising:

forming an oxide layer;

forming at least one ferromagnetic layer above said oxide layer;

surrounding said at least one ferromagnetic layer with a barrier to protect said at least one ferromagnetic layer from exposure to oxygen; and

etching into said oxide layer while said at least one ferromagnetic layer is surrounded by said barrier.

13. The method of claim 12, wherein said barrier comprises a photoresist layer.

14. The method of claim 13, wherein etching into said oxide layer comprises:

etching into said oxide layer to expose at least one electrical contact.

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15. The method of claim 14, further comprising:

removing said photoresist layer; and

forming at least one electrically conductive path between said at least one ferromagnetic layer and said at least one electrical contact.

16. A method of fabrication for a giant magnetoresistive (GMR) device, said method comprising:

forming a silicon oxide layer;

forming a first silicon nitride layer on said silicon oxide layer;

forming a plurality of GMR device layers on said first silicon nitride layer, said GMR device layers including a plurality of ferromagnetic layers and a nonmagnetic layer;

forming an etch stop on said GMR device layers;

forming a second silicon nitride layer on said etch stop;

patterning said GMR device layers to define sidewalls of said GMR device layers;

patterning said second silicon nitride layer to expose a portion of said etch stop;

covering said sidewalls of said GMR device layers with a photoresist layer;

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while said sidewalls of said GMR device layers are covered by said photoresist layer, etching into said first silicon nitride layer and into said silicon oxide layer to expose at least one electrical contact.

17. The method of claim 16, further comprising:

removing said photoresist layer; and

forming at least one electrically conductive path between said GMR device layers and said at least one electrical contact.

18. The method of claim 16, wherein said GMR device layers comprise a spin valve.

19. The method of claim 16, wherein said GMR device layers comprise a pseudo spin valve.

20. The method of claim 16, wherein said etch stop comprises titanium nitride.

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